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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,800	04/22/2004	Il Kim	1203-87	5076

7590 02/02/2007  
John S. Egbert  
Harrison & Egbert  
7th Floor  
412 Main Street  
Houston, TX 77002

EXAMINER
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NWAONICHA, CHUKWUMA O

ART UNIT	PAPER NUMBER
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1621

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/02/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/828,800

Applicant(s)

KIM ET AL.

Examiner

Chukwuma O. Nwaonicha

Art Unit

1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Current Status***

1. Claims 1-7 are pending in the application.

### ***Election/Restrictions***

Applicant's election without traverse of Group I in the reply filed on 1 December 2006 is acknowledged.

Applicants are reminded of their right to file divisional applications to the non-elected claims.

Applicants' are reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Priority***

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-5 are rejected because of the word "comprising". It is not clear if applicants are claiming a compound or a composition. Clarification is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim et al., {Synthesis of low-monomer polyetherpolyols by using highly active catalysts and their applications to high-performance polyurethanes, Polyurethanes Conference 2002, Conference Proceedings, Salt Lake City, UT, United States, Oct. 13-16, 2002 (2002), 583-593}.

Kim et al. disclose applicants claimed polyetherpolyol carbons with stereoregularity of syndiotactic triad, the methine carbon in ether bands of the polyetherpolyol carbons with stereoregularity of syndiotactic triad and head-to-tail sequence. See Abstract.

Claims 1 are rejected under 35 U.S.C. 102(a) as being anticipated Hofmann et al., {WO 2002068502}.

Hofmann et al. disclose applicants claimed polyetherpolyol carbons with stereoregularity of syndiotactic triad. See Abstract.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al., {Synthesis of low-mono polyetherpolyols by using highly active catalysts and their applications to high-performance polyurethanes, Polyurethanes Conference 2002, Conference Proceedings, Salt Lake City, UT, United States, Oct. 13-16, 2002 (2002), 583-593} in view of Schafer et al. {US 6,458,918}.

Applicants claim a polyetherpolyol for use in production of polyurethane, characterized in that polyetherpolyol carbons have stereoregularity of syndiotactic triad; wherein all the variables are as defined in the claims.

**Determination of the scope and content of the prior art (M.P.E.P. §2141.01)**

Kim et al. teach a polyetherpolyol for the production of polyurethane with stereoregularity of syndiotactic triad, the methane carbon in ether bands of the polyetherpolyol carbons with stereoregularity of syndiotactic triad and head-to-tail sequence. <sup>13</sup>C NMR analysis showed that the polyols have a random distribution of the configurational sequences and head-to-tail regiosequence, even if the amount of [rr] triad of polyol produced by DMC catalyst was larger than that of polyol by conventional KOH catalyst. See abstract.

**Ascertainment of the difference between the prior art and the claims (M.P.E.P. §2141.02)**

Kim et al. polyetherpolyol for the production of polyurethane differs from the instantly claimed polyetherpolyol for the production of polyurethane in that Kim et al. do not teach the functionality and the average molecular weight  $M_n$  of their polyetherpolyol. However, the secondary reference of Schafer et al. teach a partially crystalline polyetherpolyols with a functionality of 2 or greater, an average molecular weight  $M_n$  of 500 to 100,000 and a molar proportion of isotactic triads determining the crystallinity of >28%.

**Finding of prima facie obviousness--rational and motivation (M.P.E.P. §2142-2143)**

The instantly claimed polyetherpolyol for the production of polyurethane would have been suggested to one of ordinary skill because one of ordinary skill wishing to

obtain high-performance polyurethane is taught to employ the teaching of Kim et al. and Schafer et al.

One of ordinary skill in the art would have a reasonable expectation of success in practicing the instant invention by selecting polyetherpolyol with head-to-tail regiosequence for the production of high-performance polyurethane from the teachings of Kim et al. and Schafer et al. to arrive at the instantly claimed polyetherpolyol for the production of polyurethane. Said person would have been motivated to practice the teachings of the references cited because they demonstrate that polyetherpolyol with head-to-tail regiosequence is useful for making high-performance polyurethane. The instantly claimed invention would therefore have been obvious to one of ordinary skill in the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chukwuma O. Nwaonicha whose telephone number is 571-272-2908. The examiner can normally be reached on Monday thru Friday, 8:30am to 5:00pm.

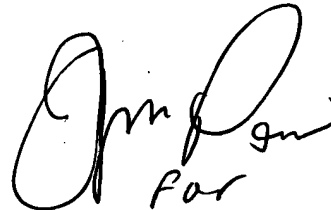
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman k. Page can be reached on 571-272-0602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chukwuma O. Nwaonicha, Ph.D.  
Patent Examiner  
Art Unit: 1621

A handwritten signature in black ink, appearing to read 'Thurman Page', with the word 'For' written below it.

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Thurman Page,  
Supervisory Patent Examiner.  
Technology Center 1600